

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: William G. England	)	Confirmation No. 7822
	)	
Application No.: 10/550,223	)	Art Unit: 1797
	)	
Date Filed: June 9, 2006	)	Examiner: KIM, Sun U
	)	
For: HIGH CAPACITY SOLID FILTRATION MEDIA	)	

Commissioner of Patents  
P. O. Box 1450  
Alexandria, Virginia 22313-1450

Attorney Docket No. 45038/320968

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Melody T. Wilson  
MELODY T. WILSON

**DECLARATION BY WILLIAM ENGLAND UNDER 37 C.F.R. § 1.132**

I, William G. England, do hereby declare the following:

1. I am employed as the Laboratory Manager for Purafil, Inc., the assignee of the above-referenced patent application. I am also the named inventor of this application..
2. I have reviewed the Office Action mailed December 24, 2009 in the above-referenced patent application and the references cited by the Examiner in the rejections of these claims under 35 U.S.C. §§ 102(b) and 103(a).
3. In paragraph 2 of the Office Action the Examiner asserts that claims 1, 2, 7 and 9 are anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 3,957,059 to Rainer *et al.* ("Rainer").
4. In paragraph 4 of the Office Action the Examiner asserts that claims 1, 2, 7 9 and 10 are obvious under 35 U.S.C. § 103(a) in view of U.S. Patent No. 6,004,522 to England ("England '522").

5. In paragraphs 5 and 6 of the Office Action the Examiner asserts that claims 3-5 are obvious in view of either Rainer (para. 6) or England '522 in combination with U.S. Patent No. 5,942,323 to England ("England '323") (para. 5).

6. I am the named inventor of two of the references cited in the rejections in the Office Action, England '522 and England '323.

7. Claim 1 of my application (the only independent claim), as amended in the "Amendment and Response" that will be filed with this Declaration, recites:

1. A composition consisting of a porous substrate impregnated with a permanganate and water, wherein the permanganate is a permanganate salt having a solubility in water greater than that of potassium permanganate, and wherein the concentration of permanganate salt in the composition is approximately 8-25% permanganate salt by weight.

8. This claim thus recites a composition that includes three ingredients: a porous substrate, a permanganate having a solubility in water greater than that of potassium permanganate, and water. I understand that the "consisting of" language in this claim excludes additional ingredients, such as sodium hydroxide or sodium bicarbonate, from the composition. I note, however, that as explained in my application the porous substrate can include a combination of substrate materials and that the permanganate salt can include a combination of permanganate salts.

9. Rainer describes activated alumina impregnated with 5-30% sodium permanganate (col. 1, lines 5-18) formed by impregnating alumina with sodium permanganate and a basic sodium compound (*e.g.*, sodium hydroxide) (col. 3, lines 7-18). All of the filters described in Rainer's examples were formed by solution impregnating the permanganate in sodium hydroxide.

10. Rainer thus does not describe or contemplate a composition having relatively high levels of a permanganate salt *without inclusion of a basic sodium compound such as sodium hydroxide in the composition.*

11. England '522 describes filtration media formed by impregnating alumina with potassium permanganate and at least 10% sodium bicarbonate (10-20% sodium bicarbonate

in Example 9; 15-20% sodium bicarbonate in Examples 1 and 2). The concentration of potassium permanganate in the filtration media can be between 5 and 12% (col. 8, lines 12-20). Although the specification indicates that sodium bicarbonate may be “optionally” added (col. 9, lines 21-23), none of the examples in England ‘522 describe filtration media formed without sodium bicarbonate.

12. In fact, due to the relatively low solubility of potassium permanganate in water, in order to produce an effective filtration media having a potassium permanganate concentration greater than about 5% potassium permanganate, sodium bicarbonate or another comparable hydrophilic compound is *required* to sustain the higher concentration of permanganate in the filtration media. Sodium bicarbonate allows the potassium permanganate concentration in the filtration media to be increased because it is a hydrophilic compound that draws water into the filtration media and thus keeps the potassium permanganate from crystallizing out of solution.

13. Moreover, although England ‘522 suggests that permanganate salts other than potassium permanganate could be used in the filtration media, at the time the earliest priority application for England ‘522 was filed I had not produced filtration media having relatively high (>8%) levels of a permanganate salt using anything other than potassium permanganate, and I certainly had not contemplated that I (or anyone else) could form filtration media having relatively high levels of permanganate salt without using sodium bicarbonate or a comparable hydrophilic compound to allow the permanganate salt to stay in solution.

14. Similarly, England ‘323, my other patent relied upon by the Examiner in the Office Action, describes filtration media formed by impregnating a substrate with potassium permanganate and sodium bicarbonate (see Examples 1-3). As with England ‘522, this reference does not provide any examples of filtration media formed in the absence of sodium bicarbonate.

15. In my present application, I describe that I have been able to produce high capacity filtration media containing a permanganate such as sodium permanganate by using only an aqueous permanganate solution *and without the use of compounds such as sodium*

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*hydroxide or sodium bicarbonate* (see, e.g., Examples 3 and 4 of the specification). It is believed that, due to the hydrophilic nature of, e.g., sodium permanganate, it can remain soluble in an aqueous solution at much higher concentrations than potassium permanganate, allowing it to be impregnated onto filtration media in high concentrations without the use of an additional ingredient such as sodium hydroxide or sodium bicarbonate. The higher permanganate concentrations in this media provide substantial improvements in filtration capacity that enhances the life of the media.

16. As an expert in the subject matter described in the present application and as the sole inventor listed on the England '522 and England '323 references (two of the three references cited in the Office Action), I believe that I am in a unique position to describe exactly what was known (and unknown) in this field at the time the present application was filed. In my opinion, it was not known or contemplated that relatively high concentrations of permanganate salt could be impregnated into filtration media without the use of an additional ingredient such as the basic sodium compound described in Rainer or the sodium bicarbonate described in my England '522 and England '323 patents. Accordingly, in my opinion the presently claimed subject matter is neither disclosed in nor suggested by the references cited in the Office Action.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

5/21/10  
Date

  
William G. England